

CLAIMS

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is as follows:

- 1 1. A process of testing spacing of wiring in a circuit comprising:
 - 2 forming a plurality of conductor rectangles representative of conductors of
 - 3 said circuit;
 - 4 forming minimum spacing rectangles around said conductor rectangles,
 - 5 said minimum spacing rectangles being larger than respective ones of said
 - 6 conductor rectangles;
 - 7 identifying a possible error rectangle when a first conductor rectangle of
 - 8 said conductor rectangles occupies a portion of a minimum spacing rectangle of a
 - 9 second conductor rectangle of said conductor rectangles;
 - 10 checking whether said possible error rectangle is a true error; and
 - 11 reporting said true errors.
- 1 2. The process in claim 1, wherein said checking comprises:
 - 2 classifying said possible error rectangle as a possible diagonal error
 - 3 rectangle or a possible non-diagonal error rectangle;
 - 4 determining that said possible diagonal error rectangle is said not a true
 - 5 error when at least two adjacent sides of said possible diagonal error rectangle

6 which connect said first conductor and said second conductor are covered by a
7 third conductor of said conductors; and
8 determining that said possible non-diagonal error rectangle is not a true
9 error when said possible non-diagonal error rectangle is completely covered by said
10 third conductor.

1 3. The process in claim 1, wherein said forming minimum spacing rectangles
2 comprises forming said minimum spacing rectangles to have sides which are a
3 minimum spacing design constraint distance from sides of respective ones of said
4 conductor rectangles.

1 4. The process in claim 1, wherein said conductors are within a single net.

1 5. The process in claim 1, wherein said circuit comprises a plurality of nets
2 and said process further includes checking for shorts between different ones of said
3 nets.

1 6. The process in claim 1, further comprising dividing said possible error
2 rectangle into at least two possible error rectangles if said possible error rectangle
3 is partially covered by a third conductor of said conductors.

1 7. A process of testing spacing of elements in a structure comprising:

2 forming a plurality of element rectangles representative of elements of said
3 structure;
4 forming minimum spacing rectangles around said element rectangles, said
5 minimum spacing rectangles being larger than respective ones of said element
6 rectangles;
7 identifying a possible error rectangle when a first element rectangle of said
8 element rectangles occupies a portion of a minimum spacing rectangle of a second
9 element rectangle of said element rectangles;
10 checking whether said possible error rectangle is a true error; and
11 reporting said true errors.

1 8. The process in claim 7, wherein said checking comprises:
2 classifying said possible error rectangle as a possible diagonal error
3 rectangle or a possible non-diagonal error rectangle;
4 determining that said possible diagonal error rectangle is said not a true
5 error when at least two adjacent sides of said possible diagonal error rectangle
6 which connect said first element and said second element are covered by a third
7 element of said elements; and
8 determining that said possible non-diagonal error rectangle is not a true
9 error when said possible non-diagonal error rectangle is completely covered by said
10 third element.

1 9. The process in claim 7, wherein said forming minimum spacing rectangles
2 comprises forming said minimum spacing rectangles to have sides which are a
3 minimum spacing design constraint distance from sides of respective ones of said
4 element rectangles.

1 10. The process in claim 7, wherein said elements are within a single net.

1 11. The process in claim 7, wherein said structure comprises a plurality of nets
2 and said process further includes checking for shorts between different ones of said
3 nets.

1 12. The process in claim 7, further comprising dividing said possible error
2 rectangle into at least two possible error rectangles if said possible error rectangle
3 is partially covered by a third element of said elements.

1 13. A computer system for testing spacing of wiring in a circuit comprising:
2 a unit for forming a plurality of conductor rectangles representative of conductors
3 of said circuit;

4 a unit for forming minimum spacing rectangles around said conductor
5 rectangles, said minimum spacing rectangles being larger than respective ones of
6 said conductor rectangles;

7 a unit for identifying a possible error rectangle when a first conductor

8 rectangle of said conductor rectangles occupies a portion of a minimum spacing
9 rectangle of a second conductor rectangle of said conductor rectangles;
10 a unit for checking whether said possible error rectangle is a true error; and
11 a unit for reporting said true errors.

1 14. The computer system in claim 13, wherein said unit for checking
2 comprises:

3 a unit for classifying said possible error rectangle as a possible diagonal
4 error rectangle or a possible non-diagonal error rectangle;

5 a unit for determining that said possible diagonal error rectangle is said not
6 a true error when at least two adjacent sides of said possible diagonal error
7 rectangle which connect said first conductor and said second conductor are covered
8 by a third conductor of said conductors; and

9 a unit for determining that said possible non-diagonal error rectangle is not
10 a true error when said possible non-diagonal error rectangle is completely covered
11 by said third conductor.

12 15. The computer system in claim 13, wherein said unit for forming minimum
13 spacing rectangles comprises a unit for forming said minimum spacing rectangles
14 to have sides which are a minimum spacing design constraint distance from sides
15 of respective ones of said conductor rectangles.

1 16. The computer system in claim 13, wherein said conductors are within a
2 single net.

1 17. The computer system in claim 13, wherein said circuit comprises a plurality
2 of nets and said computer system further includes a unit for checking for shorts
3 between different ones of said nets.

1 18. The computer system in claim 13, further comprising a unit for dividing
2 said possible error rectangle into at least two possible error rectangle if said
3 possible error rectangle is partially covered by a third conductor of said conductors.

1 19. A computer program product comprising a program storage device readable
2 by a computer system tangibly embodying a program of instructions executed by
3 said computer system to perform a process for testing spacing of wiring in a circuit,
4 said process comprising:

5 forming a plurality of conductor rectangles representative of conductors of
6 said circuit;

7 forming minimum spacing rectangles around said conductor rectangles,
8 said minimum spacing rectangles being larger than respective ones of said
9 conductor rectangles;

10 identifying a possible error rectangle when a first conductor rectangle of
11 said conductor rectangles occupies a portion of a minimum spacing rectangle of a
12 second conductor rectangle of said conductor rectangles;
13 checking whether said possible error rectangle is a true error; and
14 reporting said true errors.

1 20. The computer program product in claim 19, wherein said checking
2 comprises:

3 classifying said possible error rectangle as a possible diagonal error
4 rectangle or a possible non-diagonal error rectangle;

5 determining that said possible diagonal error rectangle is said not a true
6 error when at least two adjacent sides of said possible diagonal error rectangle
7 which connect said first conductor and said second conductor are covered by a
8 third conductor of said conductors; and

9 determining that said possible non-diagonal error rectangle is not a true
10 error when said possible non-diagonal error rectangle is completely covered by said
11 third conductor.

1 21. The computer program product in claim 19, wherein said forming
2 minimum spacing rectangles comprises forming said minimum spacing rectangles
3 to have sides which are a minimum spacing design constraint distance from sides
4 of respective ones of said conductor rectangles.

1 22. The computer program product in claim 19, wherein said conductors are
2 within a single net.

1 23. The computer program product in claim 19, wherein said circuit comprises
2 a plurality of nets and said process further includes checking for shorts between
3 different ones of said nets.

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1 24. The computer program product in claim 19, said process further comprising
2 dividing said possible error rectangle into at least two possible error rectangle if
3 said possible error rectangle is partially covered by a third conductor of said
4 conductors.